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/327 cont./
brutal people butcher them. The Chané are so subject to the Chiriguana that it is enough for them to see a Chiriguana to sit down without resisting, allowing the Chiriguana to do what they like with them. The Chiriguana take them along like flocks of sheep. They eat the ones they want and use the others for work in their houses and fields. If they want to eat one, they only tell him to go and wash in the river and he does it without talking back. He comes back naked; the Chiriguana command their children to take bows and arrows, and the poor Chané tries /328/ to escape the arrows without, however, daring to flee from the spot until he dies riddled with arrows, to the great joy of all who look at him. They cut him in pieces and eat him either grilled or roasted, with corn and much ají /peppers/. For war they use Chané who they think are brave and robust. They treat them according to their barbaric customs and put them in front of themselves; if they do not fight well, they kill them with arrow shots from behind." (Lizarraga, Vol. I, pp. 259-260.)

C [252]
C ce [726]

Last year, going from Cuevo to Igüembé, I had taken a Chiriguano guide who spoke Spanish fairly well and who had lived among the Chané in childhood. He told me in his own way about these wars of former days. His involved narrative recalls that of the Spanish monk. Later I sojourned for some time among the Chané who in their turn alluded to their fights with the Chiriguano and to the cannibalistic customs of the latter. "The Tapui are not the Ava. In times past they used to fight against the Ava." The Ava used to take the women and keep them in captivity. They used to marry the captives. From the sons of the Ava issued the Tapui, they are sons of the women they carried away. The Chané are sons of the captives. When the Chané talk together, it is with words that one does not understand. Formerly the Karai (Whites) used to fight the Ava around Cochabamba. The Karai pursued them to the lower part and left them in Paraguay. The Paraguayans are sons of the ancient Ava. In olden days the Ava used to eat the Tapuí when they made war against them. "The Ava used to eat us," the Chané would say, "and that is why we detest them."

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Fig. 19. Wooden needle (timosa) with which the Chiriguano thread the fish they have caught in order to be able to carry them more conveniently around the waist. Prov.: Tintapaw. (1/3 nat. size.)

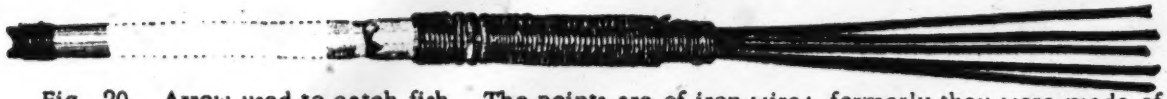

Fig. 20. Arrow used to catch fish. The points are of iron wire; formerly they were made of cactus spines. Prov.: Pípi. (1/2 nat. size.)

Fig. 21. Spear 4.70 meters long, which the Chiriguano use to harpoon large surubú when the latter swim within their reach. Prov.: Ibopeytí. (1/33 nat. size.)

Fig. 22. Spit for roasting fish. Prov.: Ibopeytí. (1/7 nat. size.)

1: Métraux--96 E-5 (1929) 1930 SF10 Chiriguano SF10

/352 cont./

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252 The fish begins by being opened and cleaned and only then is it boiled or roasted. In this last case it is inserted between the two branches of a switch split for three quarters of its length (Fig. 22). So that the latter does not open completely, the lower part is fastened securely with bands of bark, and so that the fish does not fall out once it is inserted in the interstice, the upper part. Among their ancestors, the Guarani, such a spit would have been superfluous, because to grill the product of their fishing or hunting they used to construct buccans. Our Chiriguano also eat fish dried in the sun and enjoy it in this form combined with some corn dish.

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Chapter IV

Cooking

Fire

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The modern Chiriguano more and more use matches of Bolivian make, but their poor quality has contributed to maintaining the popularity of the tinderbox. That of the Chiriguano, borrowed recently from the white men, is composed of a flint and a piece of iron with which they make sparks fly, which fall on a little wild cotton (the one which the fruit of the palo borracho (Chorisia insignis) produces). This tow (tata rimbiuna) is kept in a small receptacle made from the end of a cow horn or an armadillo tail. /Figs. 23 and 24 appear here./ It is hermetically sealed by a wooden disk, which a small cord passing inside the capsule and coming out through a hole at the tip of the horn or tail allows to be put back in place with a single motion. This ingenious contrivance is not, however, of Indian invention; I saw it adapted to the tinderboxes of the creoles in the Argentine Republic. Some Chiriguano make cloth wicks which at first sight would seem to have been produced in one of our factories. The tinderbox with its accessories is carefully kept in small bags of deerskin, wildcat, iguana, etc. (Figs. 23 and 24).

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[415]
[281]

262 [562] /355 cont./ Women could eat, without harm, parrot, a heavy and stupid bird. In their misogyny the Chiriguano doubtless figured that that would not change their nature in any way. (Campana, p. 92.)

252 Cooking is not a secondary activity; it is an important form /Fig. 26 appears here/ of the material culture and an excellent index for judging the cultural level of a human group. The art of preparing dishes reveals as well as any tool the faculties of invention and taste. In South America one can very well classify the tribes according to the more or less great variety of their dishes and the care they take in preparing them. This hierarchy would certainly correspond to that of the cultural elements.

[171] In the Chaco, Chiriguano cooking stands in contrast by its variety, its /356/ taste, and its cleanness to that of the more primitive tribes like the Toba or the Matako.

Before passing on to the study of the utensils used by the Chiriguano housewives, it is fitting to describe their menus.

When the Chiriguano kill a cow, goat, or sheep, the meat is boiled in water, roasted on a spit, or dried in the sun (charqui). They are especially partial to the head of the animal they kill, and they eat it boiled after skinning it. The pieces of meat are cleaned carefully before being cooked; and the tripe, for example, which is a delicacy, is taken out beforehand.

Corn is prepared in various ways. If the ears are tender and green, they are boiled in water or grilled over the fire or under the ashes.

When the corn is still in this state, the women prepare simbikuai or humitas (in Spanish). They bite with an appetite into the still tender ears, chew the kernels for a long time, and spit them into a calabash. This white mash saturated with saliva is wrapped in corn leaves and put under the ashes.

[415] The Chiriguano give the name of atipíi to kernels of corn roasted in a special bowl called tapuipe (Plate XIII, 3) or in large potsherds, which tend more and more to replace the primitive utensil appropriate for this use. The atipíi requires

/356 cont./

• 252 no preparation other than constant stirring in order not to be burned. This food takes the place of bread for the Chiriguano, who like to munch these crunchy and appetizing kernels. They provide themselves with it when they go on a trip.

Atipíi pounded in a mortar and passed through a sieve gives atši, a brownish flour which has an excellent taste. Atši is also prepared differently: kernels of corn are reduced to a flour which is roasted in a terra-cotta roaster or in a wide potsherd. According to Nino (p. 246), the name atikúi would be given to the kernels of roasted corn made into flour after being put through a sieve and ground until pulverized. The same missionary reserves the term atši for roasted flour obtained from the residue left by kernels which have been treated in the following way: after letting them soak in water all night, they are poured into a sieve the next morning. When the water has drained off, they are pounded in a mortar. This flour is now sifted, then roasted; cooked in water, it is the dish the Chiriguano call muintí or huinti. Atši then would be made with the residue from the muinti flour, which is ground again, then roasted like it, but first mixed with salt or pimento. I [122] have often eaten roasted corn flour which the Indians told me was atši, but I could never tell that it was seasoned. The Chiriguano give the name abatikure to the corn bran.

This is how muintimimo is prepared: kernels of corn are /Plate XIII appears here/ /357/ put to soak all night. The next morning they are ground and sifted in an urumpé (sieve with very fine mesh). The flour is poured into a muitero [415] (Plate XIII, 1 and 2). This utensil is a terra-cotta basin whose bottom is pierced with holes like a skimmer (1). The flour is

[171] [114]

1. Linné (2, Map 1, p. 23) has given us the distribution of vessels with perforated bottoms throughout America. The enumeration he makes of them is very complete; yet it lacks mention of La Rioja in the Argentine Republic where Boman (5, p. 17) discovered fragments of vessels whose bases were entirely perforated like a sieve.

[Text continues on P. 104]

Plate XIII

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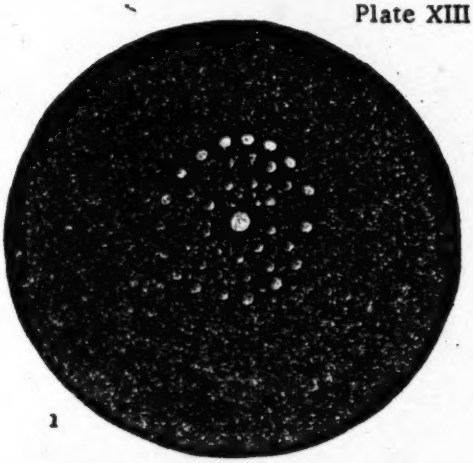

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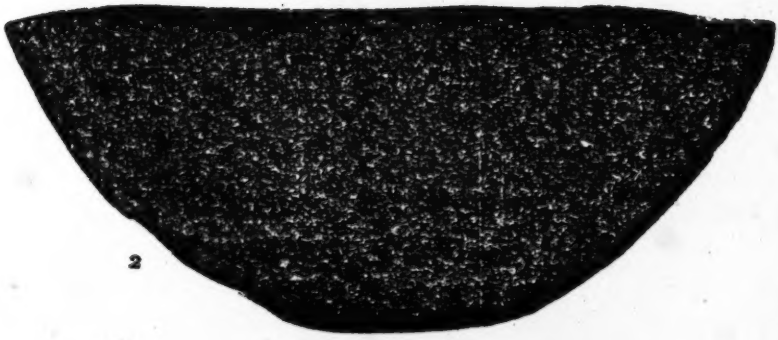

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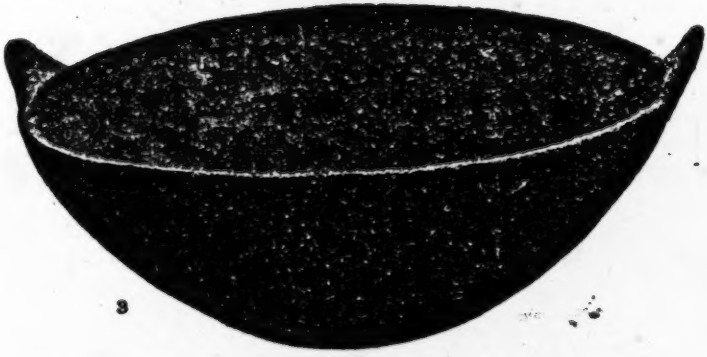

3

1 and 2 Basin with perforated bottom for preparing muintimimo, flour cooked in steam. Prov.: Ivu. (1/4 nat. size.) -- 3. Basin for roasting corn kernels or flour (tapuipe). Prov.: Saladito. (1/4 nat. size.)

/357 cont./

252 covered with the bran. The muitero is then placed on the opening of a pot full of water and the whole put on the fire. The rising steam goes through the holes of the muitero and cooks the corn while saturating it with moisture. So that the steam will not escape at the sides, the line of contact between the edges of the muitero and the neck of the vessel is smeared with clay.

I have given the recipe for this dish according to Nino (p. 246), for I have never been present at its preparation. The Chiriguano themselves must have forgotten it: I do not remember having seen more than two muitero during my whole trip: one at Yumbía and the other at Ivu. Since it is im- [178] possible to prepare muintimimo without this basin, one must suppose that the Chiriguano of the decline have forgotten even the taste of one of the most original dishes of their cuisine.

At Ivu the Chiriguano had me taste kãwi-rai (little kãwi), a kind of gruel made with kernels of corn softened by a more or less long soaking in water, then pounded and rid of the bran. This gruel is cooked in water and eaten cold. It is [273] sometimes left to ferment for several days and from that has doubtless come its name of "little corn beer."

The Indians make flat corn cakes (muyape) (2), which are

> 2. The corn fritters that I saw roasted in a frying pan at Pípi were doubtless muyape cakes. Unfortunately, I was not able to learn their name.

mentioned in the myths I have collected, but which I myself have never had a chance to taste. Avatindi, or white corn, is softened in water, pounded, then kneaded with salt and pimento and the dough shaped into flat cakes which are cooked under the ashes. When they are supposed to be done, they are pulled out from beneath the glowing embers and washed with water, and they finally have a kind of bread with a pleasant taste.

/357 cont./

252 A rudimentary way of preparing corn, but also little valued, consists of boiling the kernels in water for a long time until they have become soft (atiruru) (3).

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3. Atiruru is a dish whose consumption is intimately associated with the observance of magico-religious prohibitions. It is the only permissible nourishment for girls when they have their first menstrual periods, for people in mourning, and for women for a period of ten days after giving birth (Diccionario Chiriguano-Español, etc., p. 14).

252
262 /358/ The Chiriguano make a broth with corn flour (api) and meat, which is not bad.

They do not use haphazardly the 11 varieties of corn which they cultivate. Each, according to its properties, is intended for the preparation of a definite dish. Yellow corn (avati-hendi-vaé or avati-iyu-vaé) serves for making chicha or corn beer; white corn (avati-ndi) is roasted, as is avati-kanana. The corn called katšintši, or crinkled corn, is generally roasted, as are avati-tšore and avati-saimpini (gray corn), which are intended to be roasted and made into flour.

262 Avati-rai, or small corn, is planted only in times of scarcity when the harvest has been bad. Of small stature, it yields only one ear of reduced size, but has the advantage of growing fast (Nino, pp. 241-242).

A Chiriguano's meal in normal times is not made up exclusively of corn, even if this grain figures in all his menus. The popularity which corn has is also shared by beans, or kumanda. The Chiriguano cultivate 11 varieties of them also.

[252
263] The Chiriguano eat beans either dry or fresh. In the latter case they are cooked in the pod in water or under ashes. Beans boiled in the pod are seasoned with pimento. Then one has the dish called sopiriwa.

/358 cont./

252 In order to shell dry beans, the women make a big pile of them which they put on a hide; then, sitting down beside it, they hammer them with a stick as if with a flail. The seeds are loosened, and to separate them from the pod they take handfuls which they winnow (Fig. 27). They carry out this operation several times until not a single seed is left sticking to the pods. Next they collect them into a pile with a small broom and rid them of all impurities by shaking them in a sieve. The shelled beans are kept in vessels.

At Carurutí every morning I was offered a dish of beans cooked in the following way: a handful of beans, with a little water, was put on the fire in an improvised frying pan formed out of a large potsherd. In an instant the water was evaporating and the beans beginning to smoke; this was the moment to take them off and serve them.

The underground oven, which among other American tribes is used almost exclusively for cooking meat, has been adapted by the Chiriguano to a more humble use: in a hole which they make in the ground and which they have first heated, they bury fresh beans and leave them until they are done (Nino, p. 243).

262 After beans in order of importance come squash or gourds
252 (andai ankú, and ginda). The Indians boil them or roast them
[263] under ashes. In the first case they season them with pimento or salt to make gindaka-mikira, or squash fat. The /359/ seeds are also roasted and eaten with corn flour, atipíi, or beans.

The Indians of the Caipipendí valley sometimes, but rarely, ate sweet manioc tubers. They boiled them in water or roasted them under ashes.

Sweet potatoes or camote (in Chiriguano: yetí) are roasted or boiled. They were served to me only two or three times.

/Fig. 27 appears here./

263 The Chiriguano like condiments and season all their vegetables with them; in the bean pot they put pimento, which with them occurs in the form of extremely strong small oval fruits, green and red. I have also seen ground red pimento. In the villages where the Indians use crystallized salt, they break it into small

/359 cont./

263 pieces which are put near the fire to make them melt little by little. The cooks dip them from time to time into the soup, then take them out. If the salt is taken from salt marshes or from water by evaporation, /360/ they mold it into large balls which are scooped out as needed (Fig. 28).

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Fig. 27. Young Chiriguano woman winnowing beans. Caruruti. (Photo. A. M.)

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263 The major part of the salt exploited in Chiriguano country comes from a mine situated in the San Simon region, between San Luis (Entre Rios) and the Salado River, in the department of Tarija. The Indians flock there from all directions
484
492 with droves of donkeys which set out again loaded with big blocks of crystallized salt afterward cut into small pieces.

/361 cont./

262
252 Among the foods that nature gives them spontaneously can be counted the caraguatá, whose mealy roots, roasted on embers or under ashes, remind one a little of manioc tubers.

The pods of a mimosaceae (?), which remind one of large beans and for this reason are called iwira-kumanda, were pointed out to me as being edible. I have found this information confirmed in an article by Campana (p. 97), who adds that these fruits have a bitter taste which they lose only after several repeated cookings.

To this list must be added the fruits of the algarroba, mistol, tusca, bitter algarroba, ulala, higuerilla, etc. Chañar fruit can also help them to stand famine. Since they are sweet, they can be eaten raw, cooked, or in the form of bread after being pounded in a mortar.

In Father D. Giannechini's Diccionario Chiriguano-Español, etc., one finds enumerated a large number of plants which grow wild and which the Chiriguano eat by necessity or to vary their menus. These are:

/362/ The roots of the kaaratiro, red and stringy outside but white inside. They are edible and even pleasant tasting after being cooked in three waters (p. 18).

The watery tubers, of the size of a small onion, which the Chiriguano call iwía and of which the children are very fond. One belief has it that the spirit inhabiting this plant hides it from those who look for it if they do not observe silence or if they point at it (p. 80).

The fruit of the shrub iwira-rorai (p. 82).

The tubers of a kind of wild yuca which they call, like the cultivated species, mandío or mandionsi. This is a bitter plant, prickly and poisonous. To eat this root they cut it in pieces and cook it in several waters to make it lose its sharpness and its poison (p. 99).

A kind of wild potato known by the name mangara which the Chiriguano dig up and eat in times of scarcity. This tuber is edible only after being boiled in several waters (p. 100).

The herb monki would be equally edible (p. 133).

A certain liana (supúa) whose leaves can be eaten if other food is lacking (p. 193).

/362 cont./

262 The Chiriguano call kumanara a leguminous plant, wild,
[252] which resembles the yuca and which can serve as food after being boiled. They resort to it only when pressed by hunger. The word designating this plant has a strange resemblance to
[192] the name of the batata in the Quichua dialects of Ecuador and northern Peru (Rivet, 3, pp. 583-590). It is perhaps a question of a Quichua word introduced into the Chiriguano language to designate a plant of which they did not have the equivalent in their original homeland. The case is nevertheless rare, and one can wonder if it is not a simple coincidence.

[222] Neither do the Chiriguano look down on honey, although they
[091] do not seek it with the passion of their cousins, the Kainguá. What I tasted among them was contained in thin honeycombs having the consistency of cardboard. It had a pleasant taste.

222 Any Indian who goes in search of honey (ei) must not make
784 his intention known to anyone and, if he is asked where he is
[076] going, he must answer: "To look for wood." If you do not take these precautions, the protecting spirit of the honey is warned of your plan and hides the honeycombs he guards (Diccionario Chiriguano-Español, etc., p. 86).

222 The missionary Corrado (p. 43) assures us that grass-
114 hoppers, cicadas, the larvae of bees are that many delicious
[252] dishes for the Chiriguano. He adds that these insects are roasted. Nino (p. 247) reproduces the statements of his predecessor and completes the list of strange foods by adding /363/ ants, lizards, leaves of the cucurbitaceae, melted tallow, etc. Personally I
[191] have never seen the Chiriguano touch these dishes strange to our palates, but I am all the more inclined to believe these two missionaries that the tastes they indicate are actually those of the Indians in other regions.

262 Already in the 16th century the Chiriguano passed as snake
252 lovers, even of poisonous species. They cut off the head and tail, skinned them, and roasted pieces of them on live coals. They used to eat them with pimento. No doubt the Spaniards con-
[178] fused snakes with iguanas, which even today the Chiriguano justly like (Lizárraga, Vol. I, p. 260).

/456 cont./

285 294. A half-finished hat (Fig. 113) which I was able to acquire at Caruruti shows well the process of fabrication. The basket-maker begins by making the crown of the hat, interlacing 36 tigellas and shortly afterward adding other supplementary stalks whose ends are seen protruding. When the hat is finished, all those projecting beyond the fabric are cut off. The rhythm of the crossing elements is twofold.

285 296 Figure 114. Length, 10 centimeters; width, 8 centimeters. Provenance: Caruruti.

This cigarette case faithfully imitates the ones the Chiriguano have seen in the hands of half-breeds or creoles. Nevertheless, its technique is interesting, for it is purely indigenous. The /Plate LXXXI appears here/ /457/ tigellas of karandaí leaves cross in a twofold rhythm.

The Chiriguano are not great smokers and it is rare to find cigarettes among them, so that these cases seem to me to be made for amusement rather than for their practical utility.

Sieves

415 252 [262] There is no Chiriguano housewife who does not have at her disposal at least two sieves. The importance of this kitchen utensil corresponds to the considerable role of corn flour in their food. Of the 12 different dishes that the Chiriguano prepare from this grain, there are six or seven in which it appears in the form of flour. kĩwi itself is made with corn pounded in a mortar and then passed through a sieve. Sieves serve also for cleaning beans and ridding them of the stones and dust accompanying them. Finally, sieves are used for straining kĩwi after cooking and for separating the liquid, which is to ferment, from the marc or temiĩo. They can also be used as simple baskets, and I have seen some holding cotton seeds.

2:Métraux E-5 (1929) 1948 SF10 Chiriguano SF10
Chane SF8

C Ca. 226

Fishing.—Fishing is worth while only for those *Chiriguano* and *Chané* who live along the upper Pilcomayo or Bermejo Rivers and, to lesser extent, for the *Chané* of the Parapetí and Itiyuro Rivers. Methods of fishing vary somewhat with the regions. Along the Pilcomayo River, fish are caught with iron hooks, with dipnets, similar to those of the Chaco Indians, with the bow and arrow, and with long two-pronged spears. Fishing baskets are used in combination with stone dams (fig. 57).

Ee [171]

C 226

FIGURE 57.—*Chiriguano* fish dam in the Pilcomayo River. *A* is entrance; *B* are pockets where fish are caught. (Redrawn from Nordenskiöld, 1928, fig. 14.)

Ce 226 [962]

Among the *Chané* of the Itiyuro, fishing is done almost exclusively by women and children. They use hooks, but more often they capture fish in small ponds which they cut from the main stream by means of weirs. They also catch small fish in narrow-necked gourds into which they place chicha dregs as a bait. The *Chané* of the Parapetí scoop fish with nets or shoot them with arrows tipped with a bundle of cactus thorns (Nordenskiöld, 1912, pp. 184–185).

C 231

Domesticated animals.—Modern *Chiriguano* raise sheep, cattle, horses, and chickens. Their dogs are so completely mongrel that their European or Indian origin cannot be ascertained. The *Chiriguano* were probably acquainted with chickens when they arrived in their present territory, for they use a *Guaraní* term for them. Pets are not numerous in their villages; most of them are parrots which were captured by means of a noose attached to the end of a long pole. In order to approach the wild birds, the Indians use tame parrots and decoys.

C [223]

C 252

Cooking.—Maize is prepared in a great many ways. The grains are eaten on the cob, roasted in special pans, boiled in water, or ground into flour, which is served with every meal. One method of preparing maize flour is to steam it in a perforated bowl.

2:Métraux E-5 (1929) 1948 SF10 Chiriguano SF10

Chiriguano mortars are of the cylindrical type; the pestle is long and heavy. Maize flour is sifted in round basket sieves very similar to those used in the rest of tropical South America. Meat is boiled or broiled on a spit; the baibrenk is conspicuously absent. Food is served in clay bowls and more rarely in wooden dishes, and eaten with wooden spoons. Salt is extracted from mines near San Luis, or obtained by evaporating the water of salty brooks.

VILLAGES AND HOUSES

Dwellings.—Until the 17th century, the *Chiriguano* built large communal houses, "150 feet [46 m.] long," in which many families lived together, each occupying the space between two wall posts (Lizárraga, 1909, p. 552). A hundred years later they were lodged, as they are now, in small rectangular houses, with a steep gable roof and wattle-and-daub walls. Sometimes the roof projects in front to form a small veranda. A house belongs either to a single biological family or to two or three closely related families, generally parents with their married children.

The ancient villages were composed of three to five long houses, grouped around the plaza. Modern villages also have a central plaza. A storehouse is built on piles near each dwelling and serves to protect crops against rats and dampness. Like the settlements of their Paraguayan ancestors, some ancient *Chiriguano* villages were protected by a single or double palisade.

Household furniture.—The *Chiriguano* sleep on platform beds of reeds and use their wooden or cotton hammocks to recline on during the day or as cradles for babies. The typical *Chiriguano* hammock is made of long warp threads twined together at set intervals by weft strands; a few caraguatá specimens are made in a net technique. Other items of furniture are benches carved of a single piece of wood, large vessels to store clothes and food, and crude shelves hanging from the roof. A tree trunk with three radiating branches serves as supports for vessels or for piles of corn.

DRESS AND ADORNMENT

Clothing.—*Chiriguano* men, wearing only a G string (chiripá), were a common sight before shirts and pants came into general use. The cotton tunic (cushma), which was adopted from the *Quechua* after the *Chiriguano* migrations, disappeared long ago, but the poncho, a more recent acquisition, is still popular. As early as the 18th century, *Chiriguano* horsemen, in true Spanish style, wore skin breeches and leather coats. They wear sandals when they have to walk over stony ground or through thorny bush.

/20 cont./ its ashes
[137] [824] are good for the manufacture of soap, the bark is an emetic.
[388] [757] The whites call it toborochi and the Chiriguano "Samuú." There are several varieties and all of them are utilized to some degree or other.

[322] [415] CEIBO. -- This tree is smaller than the former, but its wood is much superior, very fibrous, and rather light in weight, being used to make troughs which are very durable since they neither split nor are eaten by wood borers. It is very pretty when [262] it blooms; the flowers are fiery red and good for salads. The Chiriguano call it "Suinandi."

DRAGO /dragon tree/. -- A tall tree, straight and quite thick; the wood is strong and useful. If an incision is made [757] in the tree, a very red resin comes out; its bark is the best for making the teeth hard and for curing scurvy. The gum called "dragon's blood" is extracted from this tree. The whites call it tipa and the Chiriguano "Güirapitiyu guasu."

ENEA /cattail/. -- An aquatic plant which abounds in certain ponds and pools formed by the water of rivers which flow away from the main stream; the Indians use it for roofing their houses, muleteers for packsaddles, and others for mats in the dwellings, on which they also have their bedding for sleeping. This is the totora or matara of the whites and the "Caipempe" of the Chiriguano.

[262] ESTORAQUE /storax/. -- This is a very large tree of the forest; it has whitish flowers and yellow fruit the size of a fig, which is edible and a favorite of parrots and monkeys; the Chiriguano eat it as a fruit and call it "Aguai."

GARGATEA or CARICA MAMAYA. -- This tree is not very abundant nor is it found in every section. It is of normal size, with a straight trunk and smooth bark softer than the fig tree; the wood is soft and is of no use at all, being similar to that [262] of the ceiba, or toborochi. Its leaves are like those of the fig tree, and the fruit is of the /21/ same size and form, but [252] yellow; it is edible and good when boiled or roasted, if eaten raw, it hurts the mouth. In Chiriguano it is called "Caincantina."

/21 cont./

137 824 [245] GUAYABO /guava/. -- This fruit-bearing tree is found wild and cultivated; it is of medium size, and the fruit, when ripe, is yellow on the outside and purple on the inside, and its bittersweet flavor is very pleasant and laxative. The green fruit and the roots are astringent; the Chiriguano know it by the same name. The wood has no use at all, and even if it [262] did, the Indians would not use it because it produces edible fruit. They regret it when any of these trees and others, like the algarrobo, are destroyed.

GÜEMBE. -- This plant thrives on the trunks of high trees, where it puts its root, and others which penetrate the ground [492] hang down from there. The roots and lianas are dark in color; very strong and durable halters are made from its bark; it is not found everywhere. One encounters it from the left bank of the Parapiti River; its fruit is similar to that of maize, for which reason it is called maize of the air, and it is edible.

HIGUERA AMERICANA /Amerigan fig/. -- This is the [262] guapoy of the Chiriguano and the bibosi of the populace; although the fruit is rather sour, it is edible. Bats like it, and it [757] is annoying to have this tree near the dwellings; it has a milky juice like the common fig tree, which, applied to wounds, heals them. In addition to the above fig tree, there is the [245] common one which flourishes with very little care, in the towns, [439] especially the Mission ones, it is widely cultivated by the [431] natives and its fruit is used by them for gifts and trade with the whites.

244 MANDIOCA. -- This plant is called "Mandio" or "Mandiporopi" by the Chiriguano Indians. A little book written by a Jesuit missionary of the old Paraguay missions relates that this plant was left to those Indians by Saint Thomas the Apostle who, according to their tradition, came here to preach the doctrine of the Redeemer. Mandioca is ● [252] an excellent food and very digestible; it is eaten boiled, [262] roasted, and fried in lard. It is a plant cultivated by whites and by Indians.

/24 cont./

245 PAPAYO. -- This tree is neither native like the palma Christi, nor is it found wild like the latter. It is grown in orchards or in well-fenced fields, grows very fast, and produces fruit one year after being planted. Its trunk is straight, soft, and hollow; some have two or three branches and rise up to four meters high. The fruit is refreshing, yellow, with a smooth skin, of the size and shape of a small melon, even the flavor being somewhat similar, but it is more digestible. Many fruits are bunched around the trunk and are also found here and there at each leaf, but always attached to the trunk. The plants which produce the fruit are the good ones, and they call them "females." There are others which they call "males," but their fruits are useless and are not attached to the trunk, but rather hang from it like streamers. It is useless to pick them. To have a good papayo tree they assert that, in transplanting one, it is necessary to take the precaution of always putting or burying two plants in each hole, one of which will always be a female, and the one which turns out to be male will be pulled out. I do not know if this is true, but I did it this way in January of this year. The fruit contains many seeds which, [757] when ground and drunk in an emulsion, are good for getting rid of worms. The fruit and the tree have a resinous milk. • [252] Therefore, in order for the fruit to be good and digestible, it is better to cut off the ends and make about five or six vertical cuts so that this resin may come out; by the next day /illustration appears here/ /25/ it is already very pleasant. It is nevertheless best to take the precaution of letting them begin to ripen on the plant itself; in this condition, uncut, they will last up to six days without going bad; then they can easily be transported great distances.

137 824 [252] [262] PASSION FLOWER. -- This is a climber which is found on fences, clothing them in the rainy season with abundant foliage, as does the "supua," whose fruit is edible and good roasted or boiled, as is the leaf. The fruit of the passion flower is of the size of an apple and just as smooth, the skin is thin and the inside is found to be covered with a white, stringy membrane. When this is broken, the seeds of the fruit come

[TEXT Continues on P. 43]

/243 cont./

244 one preferred by the Chiriguano, and he has good reason, as it is quite edible, the least damaging to health, in addition to being the seed which is most resistant to drought. It is very abundant, and as many as four harvests can be taken from it.

262 252 [244] The Chiriguano plants whatever type of beans /judías/ he has or can obtain from his neighbors or companions when he runs short, because only in the case of maize, which he prefers to eat parched and not boiled, does he plant several varieties. All beans /alubia/ are good to the Indian because of the use that he makes of them, which is to boil them and eat them, to roast them under hot ashes with their pods, or, by making a hole in the ground, to heat it and burying the pods there so that they will cook.

247 If the Chiriguano frequently lacks beans to mix with the maize, it is unlikely that he will be without gourds, which grow with little cultivation and which are so resistant to drought; it is also extremely easy for him to plant this food, so much so that women and children devote themselves to it, because not many plants are needed in a plot for an abundant harvest.

241 262 [415] Twelve classes of gourds are known, but only five are edible; the other seven are used for matés. The edible ones are the following; Andai, Gũindaca guasu, Gũindaca mi, Gũindaca mi guasu, yiquisigua; the latter has an edible interior and the exterior is useful for domestic purposes, to keep 249 any object in its hard shell. The gourds that serve for matés are Iá, true maté; Iá pua, round maté; Iámpe, flattened maté; /244/ Iá guasu, large maté; Iá-rai, small maté, Iá pucú, long maté, and Iá pani, twisted maté (1).

1. The Indian does not include in the number of gourds the one the two children used to free themselves from the deluge of water because it was a miraculous one.

/244 cont./

252 262 Gourds are eaten boiled, roasted, and in broth; the seed is enjoyed when roasted with maize meal, parched maize, or beans. They also eat them as broth, which they call Güindaca mi quira, or grease of the gourd, to which they add chili pepper and salt, just as they do with beans cooked in ollas with the whole pod, which they call Sopirigua.

241 If the Chiriguano manages to plant a little maize beans /poroto/, and gourds, he is content and stops planting other, less important seeds. Few plant Yeti, sweet potato, Mandiporopi, mandioca, Tacuaneé, sugar cane, and Monduvi, peanut. They all plant watermelons and other melons; many plant figs and tunas, or nopal, and few cultivate orange trees, because this Indian has little patience for waiting on the ingratitude of certain plants which require much care and are very slow in yielding fruit (2).

[192] [177] 2. Names for watermelon /sandía/ and melon /melón/ do not exist in the Chiriguano language, which indicates that these fruits were introduced by the whites, from whom the Indians got them.

222 245 262 The nopal is very abundant in this area, rising to some three or four meters; its fruit is very exquisite, as everyone knows. Its cultivation is nil; it is enough to pluck off a branch of the main plant and bury it halfway, and its sweet fruit will ripen from the second year on. It is the plant that the Chiriguano value most.

245 Even the fig tree, which also needs little care, is cultivated. They call it Iva, as well as calling the nopal Saini, and both plants seem to be native, because they grow in hot places, and the name indicates that they have always had them. The fig tree requires more cultivation than the nopal, but this is relatively insignificant; they pull off a branch, plant it during the rainy season, and let it grow fully without pulling off any shoots (3).

439 3. Whites who live among the Indians are

/244 cont./

439 occupied in other, more lucrative trades; they rarely plant fig trees and nopal, and this benefits the Chiriguano, who sells both fruits, receiving money, meat, or charqui from the white man.

241 When any of this planting is done, all the desire of the Chiriguano is that it yield; he fervently beseeches the favor of heaven, /245/ or the sorcerers, masters or the rain, that there may not be a lack of the necessary moisture, and he, with his own hands, sees to it that the planting is quite free of all weeds.

Use of the Ripe Produce

262
252 If the weather is favorable and the Indian has taken care of the planting, the reward of his little bit of sweat will not make him wait long. In exactly three months, or even before, he can already begin to savor Abatíqui, tender maize, which the mestizos call choclo. The first of these ears are eaten roasted and almost never boiled, because they say that prepared in the latter fashion they are tasteless. They go on to say that roasted choclo must be cooked only a little in order not to lose its ability to fatten, and if it is roasted under ashes with the whole husk, it is almost as sweet as sugar. How well, dear reader, do my Indians know what is good for the body, and how they know the way to get fat and what is most pleasing to the palate! They are good gourmets despite their poverty! It seems that they belong to the abdominals described by Father Saj.

When the choclo is somewhat more mature, they eat it with more pleasure, and then they also very nicely prepare Simbícuai, humitas/small cakes made of tender maize and sugar/. The method is very simple: instead of a knife or spoon to pull off the kernels, the young Chiriguano girl or old woman, pretty or ugly, with good teeth or bad ones, uses these instead of a mortar and pestle to grind it; it is done with the teeth very

/245 cont./

252
262 clean, and, of course, in view of the chewing the choclo turns out well seasoned with the clean, white saliva of the old or young women. Then they wrap up the chewed matter in green husks, tie it up, put it under the ashes, and, when it is cooked, they eat it as if it were a very delicate victual, and let it be noted that if the Chiriguano humita were not made thus, it would turn out tasteless for lack of sauce and salt, which things they make up for by means of the above-mentioned procedure (1).

1. The whites here and elsewhere make humitas, grinding up choclo in a mortar and mixing in cheese, curds, meat, and other ingredients; but the Indian follows his old way without adding anything other than saliva to it.

The season of fresh maize lasts some three months, because the Chiriguano, accustomed to heavy food, eats it as fresh even when it is very ripe. When the choclo season ends, the woman gathers a few ears of abatindi or /246/ saimpino, husks them, sits down near the fire, where she has put her potsherd or clay vessel, and she tosses the maize there to parch, stirring it with a little stick or with the cob of the maize itself, being careful not to overcook it, so that it may not lose its substance. They eat very little boiled maize, Atiruro, and even the parched corn, Atipíi, must be accompanied by its Intina, side dish, which should be something unusual (1).

1. For their side dishes they make use of beans, gourds, meat, fish, empanizado, large Isaú ants, cicadas, lizards, worms, melted tallow, honey, gourd leaves, wild herbs such as the Mandió, and locusts, whose appearance sometimes makes him happy because now he has it for his roasted maize.

/246 cont./

252
262 It is not likely that in times of abundance the Indian will resign himself to always eating maize in the same fashion, both because he becomes tired of it and because there are also old people who are toothless and cannot eat parched maize very well. To avoid both things, the Chiriguano mind has found various ways to prepare maize dishes, in addition to those already noted. He savors with satisfaction Aticúi, meal; to make it, the Indian woman, after having been huddled for a long time near the fire, takes her pestle, tosses a quantity of parched maize into the mortar and grinds; then she sifts the ground maize in a fine palm sieve and grinds it all up again, so that the aticúi, which the whites call pito, may be palatable enough.

As easily as she prepares aticúi, she also makes Muinti, which is the seventh way of eating maize. For this she puts a small number of kernels in water and lets them soak overnight; in the morning she takes them out and puts them in a sieve so that all the water may run off. She then proceeds to grind them little by little and once finished, sifts it and parches it as she did the meal. From the remains from grinding the muinti, called Abaticure, named arrocillo by the whites, she prepares Achi. To make it, she grinds the arrocillo again, puts salt and chili pepper in the meal, and parches it.

The ninth way of using maize is a little more complicated. It is frequent, but not usual. It is called Muintimimo. To make it, kernels are steeped and ground early in the morning and then sifted in a fine sieve; next one prepares a plate which has small holes for the purpose, and the ground meal, which is covered with bran, is put on it; finally, the plate is put on an olla of boiling water, its edges sealed with /247/ a paste of ashes so that the steam may not escape, and then it is left to cook by steaming (1).

1. To see if it is ready, she taps on the bran with her fingers, and, if it sounds like cooked bread, it is a sign that it is time to remove it from the olla, throw away the bran, eat what is wanted, and save the rest.

/247 cont./

252 262 Infrequently the Indian drinks a broth of ground maize, Hapi; when he does not have meat, he uses beans and gourds for his broth. If he does not have these either, he prefers Cagüĩ rai, which he prepares by soaking and grinding the maize, removing the bran, and cooking it. They also chew it sometimes, let it ferment, and eat it when it is ready; anyone who sees this last food could not help but be disgusted, but for them it is a very excellent dish.

[263] The twelfth and last way of eating maize is Muyape, bread. The preparation is the same as that of the Hebrews when they eat unleavened bread, but the Chiriguano put salt and chili pepper in it; after it is kneaded, they cover it with ashes and fire and let it cook well; when it is done, they take it out, wash it with water until the ashes which have stuck to it are gone, and, well washed, it has the color of bread, which invites both big and small to savor it; it is what the Indian likes best, and the women make it frequently in times of plenty. Its odor and taste are very pleasant, especially when just made.

273 Cangüĩ — Chicha

All the ability of a wife consists of knowing how to make chicha well, the delicious cangüĩ of the Chiriguano, who is capable of walking a hundred kilometers or more to drink it, when invited with all the rules of native diplomacy. Cangüĩ is his coffee, his soup, his wine, his food, his drink, his everything. In a certain way it is his God, and I am sure that many would renounce heaven for chicha, because they know almost nothing of what heaven is, and, on the other hand, they know that chicha is a sweet thing which gladdens the heart and leads to conversation and singing; therefore, every Chiriguano woman must take special care from even before puberty to learn well the method of preparing it. Here it is (2).

[177] 2. The method of making the chicha which the whites call arrope is somewhat different, but the Chiriguano Indians do not use it and learned of it only recently.

/252 cont./

262 As very savory food there are also cicadas, ants, lizards, locusts, and some green worms which cause disgust just to name them. If a head of cattle dies and putrefaction has begun, the Chiriguano finds it excellent; give it to him and it is a grand gift, and that day is a carnival for him; he does not try to find out whether the animal died from the poison of a viper or rattlesnake or from rabies (1).

262
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1. When Indians bring home the meat of dead cattle well into a state of putrefaction, they boil it in ollas and throw away the liquid, and in this way it loses much of its bad smell.

262 I do not know whether it is through superstition or because they
178 are descendants of the Jews that this tribe formerly did not eat the flesh of the pig; although they like and hunt the wild boar or the peccary, they did not touch the domestic pig, but today almost all of them, with the exception of some women, eat it.

261 The Chiriguano suffers in times of hunger or scarcity of food,
262 but he looks for food in the earth; this is very harmful food, which produces various ailments, such as consumption and
[252] dysentery. He looks for the potato of the serpentine arum, ex-
[164] tracts it, and, making a hole, heats it, throws the potatoes there, and covers it with ashes and embers, leaving them overnight; on the following day he and his family eat, but it gives them a bad stomach-ache, which makes them throw themselves down with their bellies to the ground until the pain abates; the same potato, raw, is efficaceous for killing worms in the galls of animals.

[222] Another food in times of scarcity is the Caraguata; this
[252] is a kind of aloe with leaves without the oily liquid; the edible part is the roots, which have a flavor like mandioca; it is considerable work to pull them out of the ground, where they are firmly attached, and the mealy substance is /253/ little enough; to eat it, it is roasted in the coals or under the ashes. When it is the time for fruits and want threatens, the Chiriguano

/284 cont./

000 The philosopher Foción said that he who has the fewest desires to satisfy is the happiest man on earth. This is a truth based on experience, but it is not true happiness; it is part of it, because complete happiness is not attained here.

The true Chiriguano dressed in the old way and his wife with her tipoy must have been the happiest beings on earth, but as they are children of the first man, they also inherited affliction, pain, and death. These three things are almost always the consequence of illness, and they come from the intemperate life that I have described, just as they also come from the drinking and eating.

515 751 The Chiriguano takes no care of his person, although he loves life, which he would like to be eternal, however much he may walk dragging himself along. His foodstuffs are not at all [262] hygienic; he eats /illustration appears here/ /285/ often and with [252] too much greed rotten meat, vegetables, and maize itself, which [271] he parches but never cooks completely. The water he drinks is not [273] always clear or free of microbes and small worms that are visible; the very chicha that is manufactured with such elaborate effort and care is drunk still sour, and, finally, shelter is unimportant. In periods of great heat he lies on the ground, taking on his back the burning rays of the sun; he protects himself little in the abrupt changes of temperature, and if he gets wet in the rain or has taken a voluntary bath of cold water or water heated by the sun, he lets his clothes dry on his body; from these come the illnesses that I shall presently enumerate, illnesses that he suffers from, which make him unhappy and then carry him to the grave.

753 821 The rainbow that God gave to Noah as a sign that He would not flood humanity again with the waters of a new deluge is a sad sign for the Chiriguano. If this so natural phenomenon appears in a town and begins in front of or over a house, when it disappears it does not end or turn to nothing but hides itself in the belly of one of the residents, who in time will get sick and die of dropsy, from which it follows that this illness, which is rare among them, is caused by the rainbow (1).

1. Another natural phenomenon is the whirlwind,

[TEXT Continues on p. 385]

S:Nordenskiöld E-5,4(1908-1909. 1913) 1920
SF10 Chiriguano SF10
Chané SF8
Aymara SF5

C
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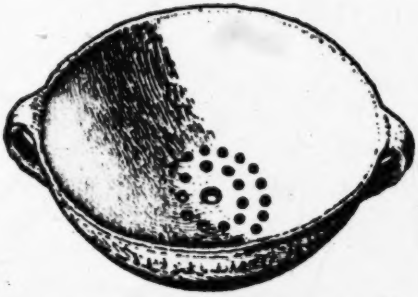

Fig. 16 a. Upper part of the steaming apparatus. The specimen given here is from the Mataco-Vejos, who learnt to use it from the Chané. R. M. M. 1022.

IX.

Utensils used in preparing and consuming food.

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The Chiriguano and the Chané have large wooden mortars with long wooden pestles. Hand-mills of stone or any other material are never used. The geographical distribution of the mortar has already been dealt with in the first volume (map 10). Evidently the wooden mortar has come to the Chiriguano and Chané from the east. It is a northern and eastern element of S. American culture. Among the Chiriguano one sometimes sees mortars hollowed out in stumps of trees. It is obvious that the Whites did not introduce the mortar here from the fact that it was mentioned by such early author as SCHMIDEL from the Syeberis in North Chaco.

[412]

C
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Both the Chiriguano and the Chané sift and strain through a round basket, the »urupé» (fig. 52). The following table shows us how sifting and straining is done by the tribes I have visited. Some tribes use four-sided sieves and strainers.

A
[415]

S:Nordenskiöld E-5,1(1908-1909, 1913) 1920
SF10 Chiriguano SF10
Chane SF8
Aymara SE5

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Table 7.

	A net-bag	Yuracáre type[1])	Square Sieve	Urupé	Through coarse cloth
Ashluslay	—	—	—	—	—
Atsahuaca	?	?	?	—	—
Aymara	—	—	—	—	+
Cavina	?	?	—	—	—
Chacobo			—	—	—
Cháma	?	?	—	—	—
Chané	+	—	—	—	—
Chimáne	—	—	+	+	—
Chiriguano	—	—	—	+	—
Choroti	+	—	—	—	—
Guarayú (mission)	—	—	—	+	—
» Pauserna	—	—	—	?	—
Huanyam	—		+	—	—
Huari	—	—	—	+[1])	—
Mataco	+	—	—	—	—
Quichua	—	—	—	—	+
Tambopata-Guarayo	?	?	—	—	—
Tapiete	+	—	—	—	—
Toba	+	—	—	—	—
Yamiaca	?	?	—	—	—
Yuracáre	—	+	—	—	—
Itonama	—	—	—	—	—
Baure	—	—	—	—	—

From the literature I know of the urupé from the Paressi[2]), the Indians of the upper Rio Xingú[3]), the In-

[1]) Not obtained.
[2]) See NORDENSKIÖLD (9) Pig. 32.
[3]) MAX SCHMIDT (4) P. 209.
[4]) MAX SCHMIDT (3) P. 350.

S:Nordenskiöld E-5,4(1908-1909, 1913) 1920
SF10 Chiriguano SF10
Chané SF8

dians of the Roraima district,[1]) the Indians of northwestern Brazil,[2]) the Maquiritare[3]) and the Uitoto.[4])

Ce
Ce
445
171 *
252 •

Ce
252
415

Fig. 16 b. Steaming apparatus. Chané, Rio Itiyuro.

Ce
Ce
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171*

The Urupé is obviously a northern cultural element. It is certainly not from the western culture zone. GARCILASSO[5]) says that the Inca sifted through cloth, or rather

[1]) G. M.
[2]) KOCH-GRÜNBERG (2) Vol. 2, P. 217.
[3]) R. M.
[4]) WHIFFEN Pl. XXII.
[5]) GARCILASSO Libro VIII. Chap. IX.

5tNordenskiöld E-5,4(1908-1909, 1913) 1920
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Chané SF8

that they fanned the flour. They had no proper sieves. As we have seen from the table, the Chaco tribes have no basket-sieves, but use bag-nets instead.

Mandioca-graters do not occur among the Chiriguano and the Chané.

Of course the Chiriguano and the Chané cook their food in earthern ware. Maize-beer »Chicha», their chief food, is boiled in large vessels. It is only with great difficulty that these can be moved from one place to another[1]). Some of the Chiriguano occasionally allow the maize-beer to ferment in hollow stumps of the bottle-tree.

The steam cooking-pot shown here (fig. 16) is of very great interest. It is used by the Chané and Chiriguano in cooking a certain dish of maize, the »huintimimmo».[2])

I have seen this contrivance being used as shown by the illustration, but I have, unfortunately, not tasted the maize-dish that was cooked in it.

In literature dealing with other parts of S. America I have only found this steam cooking pot mentioned by ULLRICH[3]) from the Rio Grande do Sul (Munizip Pelotas).

He there found pieces of »Siebtöpfen» and says that they were used on the top of a cooking-pot. ULLRICH[3]) tells us that these steam-cooking-pots were used by the

[1]) When fragments of very large and heavy earthenware vessels are found in archæological excavations one may, as a rule, presume that they originate from a permanently settled tribe. It may be assumed with perfect certainty that these very large vessels were made at the spot where they are found. Small earthen pots may, however, have been bartered from some other tribe. This is naturally of a certain interest if we wish to distinguish between native and imported pottery found in archæological excavations. — Some of the Chiriguano at the Rio Parapiti make only the big common clay vessels themselves and get the small, painted pots by barter from other Chiriguano Indians.

[2]) CORRADO when speaking of different dishes of maize says that »*el huintimimmo*, especie de torta muy tierna hecha con harina de maiz humedecida y blandamente dispuesta en una tortera agujereada y cocida con baho del agua caliente.» P. 42.

[3]) P. 500.

StNordenskiöld E-8,4(1908-1909, 1913) 1920
SF10 Chiriguano SF10
Chané SF8

small Indian tribes in the woods north of the Rio Camaquam at the end of the decade 1870—80. The perforated top bowl contained maize, the pot under it boiling water.

I cannot at present tell whence the Chiriguano and the Chané got this cultural element. Besides among these Indians, I have also seen steam-cooking-pots of the same kind among the Mataco-Vejos, who live close to the Chané at the Rio Itiyuro.

The Chiriguano and the Chané have special bowls for roasting maize (fig. 16). I have only seen bowls of the same shape among the Mataco-Vejos. The roasting of maize is commonly practised among the majority of Indians who grow this plant, which is of such great importance to many tribes.

The Chiriguano and the Chané do not know of the babracot. They only use the wooden spit. It is often cleft, as is also the case among the Choroti and the Ashluslay. As the kinsmen of the Chané in Northern Bolivia and the kinsmen of the Chiriguano on the coast of Brazil use the babracot, the question arises: »Why is it not used here?» I suppose this is because the hunting is of no great importance, the fishing not very good, and the fish caught small or, at least, rarely of any size.

Pit-ovens are unknown here. When chicha is being made, great pot-spades are used. They are either wooden (fig. 17 A) or made of the hafted shoulderblade of some large mammal. I suppose all Indians who cook their food use something to stir it with. Usually, however, only a plain stick is used. Pot spades of the kind shown here are in use among the Mataco-Vejos, who live near the Chané on the Rio Itiyuro and the Guató[1]) on the upper Rio Paraguay. It is not unlikely at all that the latter have had them from the Chané, for we know from accounts of very early discoverers, that some of the Chané settled on the upper

[1]) Max Schmidt (1). P. 205.

5tNordenskiöld E-5;1(1908-1909, 1913) 1920
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Chane SF8

Rio Paraguay after Garcias marauding expedition, not far from the tract where the Guató now live.

A potspade of the same type from the Yulãmaua along the Rio Querarý is shown in an illustration by KOCH-GRÜNBERG.[1]) I have not seen the shoulderblade potspade in any other tribe.

Similar spades, said to have been used for agricultural purposes, are mentioned by ST. CRICQ[2]) from the Conibo.

Nowadays the Chiriguano and Chané for the most part eat their food with metal spoons which they have got from the Whites. They have, however, wooden spoons as well. They generally eat from earthenware bowls of their own make. They seldom have wooden bowls. I have already treated of the distribution of the wooden bowl and the wooden spoon. (Part 1 map 12 and 13.) They are features of western civilization. Calabash bowls are universally used by the Chiriguano and Chané as drinking vessels, particularly for chicha.

Silver bowls — »Cagua» — are occasionally seen at the Chiriguano festivals. These bowls, which are shaped like cloven calabashes, are often furnished with small ears and are made by mestizo smiths to suit the Indian taste.

There is in my collection a calabash bowl that has been turned into a ladle by means of a handle. It is from the Chané at the Rio Itiyuro. I have also procured some bowls made of the fruit of the calabash tree from the Chiriguano. The Indians get them from Ste Cruz de la Sierra, for, as far as I know, the calabash-tree is not cultivated within their own area.

Fire-fans of plaited palm leaves are used, though they are rather uncommon. These fire-fans belong to the cultural elements which have come to the Chiriguano and the Chané from the north and east. Later on, when writing about the Indians in northeastern Bolivia, who have sev-

[1]) T. 2. P. 209.
[2]) P. 287

S:Nordenskiöld E-5,4(1908-1909, 1913) 1920
SP10 Chiriguano SP10
Chané SP8

C Ce 415 ₹171 [252] Only a few vessels are provided with ~~spouts~~ lips in rims which here seem to be an idea obtained by the Indians from the Whites.

Bowls with holes in the bottom which are used for steaming have already been mentioned in the foregoing. This applies also to bowls for the roasting of maize.

The Chané on the Rio Parapiti have small plates which they sometimes use in spinning. I have not seen the like elsewhere. Occasionally one sees, among the most civilized Chiriguano and Chané, fire-pans for holding hot water. (Fig. 43,21). They must have obtained the idea from the Whites. C Ce [177]

C Ce 323 The Chiriguano and Chané understand the art of painting earthenware before burning.[1]) I have already, in Part I, endeavoured to show the geographical distribution of this invention. Whether it was known to the Chané and Chiriguano before they settled in this tract cannot be decided. The pottery I found in the archaeological excavations at Caipipendi is unpainted.

C Ce [184] The Chané at Rio Itiyuro sometimes paint the edge of earthen vessels after burning with resin of palo santo. This is never seen among the Chiriguano and the Chané at Rio Parapiti. As such painting is common among several tribes in the Chaco, it is possible that the Chané at Rio Itiyuro got the idea from there. The Chiriguano and the Chané at Rio Itiyuro often varnish the painted vessels after burning with a kind of gum called by the Chiriguano — staragüirisi.

The Chiriguano and Chané also ornament their earthenware by finger-impressions. This method of ornamentation has an eastern extension in S. America. A map showing its distribution is published in Part I.

The ornamentation painted on earthenware is seen in the illustrations. The Chané at Rio Parapiti usually have very plain ornamentation.

C Ce [237]

[1]) For this purpose brushes of Agouti hair are used. (See also WEISSER P. 82).

2/A [erratum corrected. See errata sheet p. 245.]

6: Nordenskiöld--33 E-5 (1908-1909) 1912 SF10 Chiriguano SF 10
Chane SF 8

/180 cont./
the most common among the Chiriguano. Only those women who live with the whites and have adopted their manners and customs carry jugs on their heads.

Division of Labor between the Sexes

Here too, as among the Chorote and Ashluslay Indians, each sex, as a rule, has its specific work, as we see from the following table:

Table showing the division of labor between men and women among the Chané and Chiriguano.

	Men	Women		Men	Women
Fishing . . .	+	+ (1)	Gathering wild fruits and tubers		+
Hunting . . .	+		Ceramics . . .		+
Planting, clearing . .	+		Woodworking . .	+	
sowing . .	+	+	Knotting nets . .	+	
reaping . .	+	+	Plaiting rope . .	+	
Cooking	(2)	+	Plaiting mats . .	+	
Carrying wood . . .	+	+ (3)	Tying hammocks .		+
Carrying water . . .		+	Leather work . .	+	
Preparing intoxicating drinks		+	Making weapons .	+	

1. As a rule, the women fish in shallow water, the men in deep water.

2. Sometimes take part in the preparation of the hunting booty.

3. Among the Chané on the Rio Parapiti.

/183 cont./

The Chané and the Chiriguano are not great hunters. Perhaps in former times there was more hunting. Their hunting weapons consist of bow and arrow. For hunting wild pigs they use clubs; for ostrich hunts the bolaedora /bola/, "churima," was formerly used. Snares and bird nets are also found. In former times the hunters wore /184/ a costume of leather cut in imitation of a European cut, obviously copied from the Spaniards (1). This

1. Viedma already mentions this costume, p. 181.

was not permitted to hang in the house. Formerly, also among the Chané on the Rio Parapiti, no meat could be cooked in the house; rather, this had to be done a short distance away. Boys are, of course, eager hunters of small birds. Like the men, they sometimes use clay-projectile bows.

There are hunting dogs specially trained for hunting wild pigs. In a Chané village on the Rio Itiyuro I saw how all the dogs had a red cross painted on their heads, so that they would not be bitten by a mad dog running about in the vicinity. It was truly amusing to see how these heathen Chané protected their dogs against rabies with the sign of the cross.

Barirayu told me that Chané men, when they go hunting, are not permitted to sleep with their wives the night before.

Fishing is carried on differently in the various rivers.

In the Rio Itiyuro women and children almost exclusively do the fishing. There are only small fish there too. I saw three methods of fishing there. Angling, fishing with calabashes, and fishing by damming up pools. The fishhooks consist of bent needles obtained from the whites. Floats and sinkers are not used.

Fishing with calabashes is done in the following way. Several bunches of leaves, which give shade, are stuck in the bottom of the river, and in front of each of these is placed a calabash (Fig. 90) with sour, ground maize (residue from beer brewing). The fish gather in the calabashes, which are taken out from time to time by the women. The latter creep toward the calabash, quickly place a hand over the opening, lift /185/ it up, and then empty the contents into pits along the river bank.

C /187 cont./
Ce the Chiriguano and Chané have fewer horses, cows, donkeys, sheep,
231 and goats than the Choroti and Ashluslay. On the other hand, they have more chickens and pigs. Sometimes one sees ducks, guinea fowl, and turkeys. In certain regions, as, for example, in the Caipipendi valley, where the Indians are wealthy, they also have much livestock. The whites, unfortunately, try in every way to cheat them out of what they have. Thus, it is not uncommon for a white man or a white woman to come into a village with a few kegs of spirits and to leave it with a couple of the best cows of the Indians. The whites are richer, the Indians poorer.

Ce [184] [556]

Ce [439]

C 229

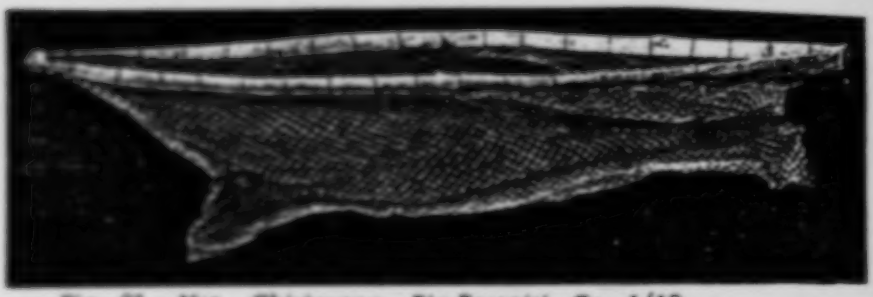

Fig. 91. Net. Chiriguano. Rio Parapiti. Ca. 1/12.

C
Ce The menagerie of tamed wild animals which one sees in the villages
231 of the more primitive Indians is not to be found among /188/ these Indians
191 A parrot that talks a little Guarani, however, is not unusual in the huts.

Preparation of Food

C
Ce The dirt that we come across in the preparation of food and eating
● 252 among the Choroti and Ashluslay is not found /Fig. 92a appears here/ among the Chané and Chiriguano. On the other hand, the dishes are terribly monotonous. They consist of maize in every possible form, cooked maize, roasted maize, maize bread baked in ashes, maize flour porridge, and /193/ steamed maize flour. The latter is prepared in an apparatus illustrated here (Fig. 92).

Ce [262]

/189 cont./

Meat is cooked with maize as a soup or roasted. Before it is placed in the pot, it is washed clean. Fish are roasted over the fire in clamps /Klammern/ or in maize leaves. The small fish which I saw prepared in this way are taken out only when they are eaten. If there are many fish, they are dried for future use.

Especially in times of famine, various /Fig. 92b appears here/ wild plants are also eaten. Salt, which is now bought from the whites, is used for food. In former times it was fetched from the rock-salt pits on the San Luis, on the way from the city of Tarija to the Chaco, or salt was made from saliferous earth, "yukiu." The earth mixed with salt was placed in a bowl of water, sank to the bottom, and the salt water was used.

Fig. 92a. Steaming apparatus. Chané. Rio Itiyuro.

Women and men eat separately. At home the men usually eat first and then the women and children. The Indians want to be left alone when they are eating. It is therefore extremely ill-mannered to speak to them during this important activity.

/190/ As far as I saw, they do not eat out of a common dish, but each one eats out of his bowl. After meals they rinse their mouths and wash their hands by spitting the rinse water over their fingers.

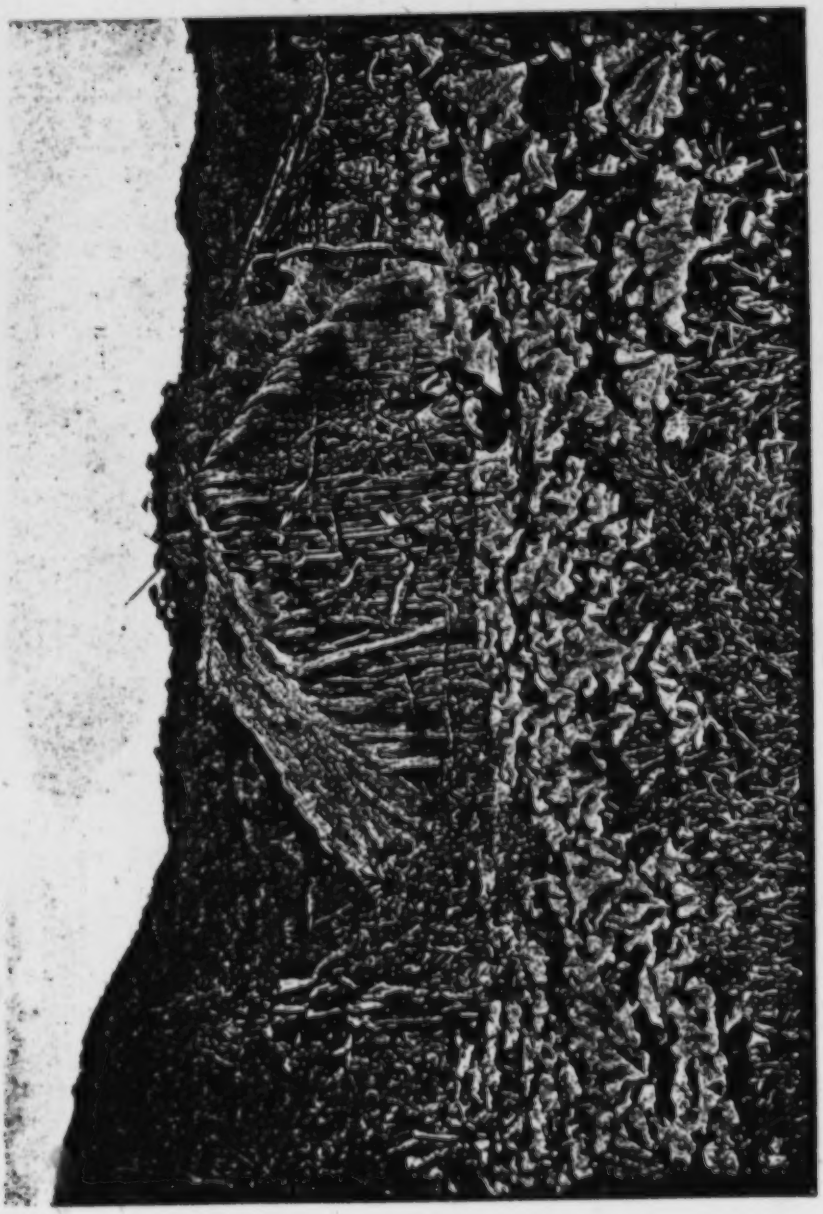

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Fig. 189. Woman at a cooking-fire in front of her hut. In the foreground a gourd-patch; to the right an open cooking shed, the roof of which was used as a rough pantry. Chiriguano. San Luis. Bolivia. Photo. E. v. K.

7:Rosen E-5 (1901-1902) 1924 SF10 Chiriguano SF10

experiment carried out at Rockelstad in the summer of 1919[1], the› stone-age men‹ soon found themselves compelled to build a ›lave‹ so that the goats should not damage such foodstuffs and implements as had to be kept outside the hut.[2]

It is my belief that the ›lave‹ has also supplied the idea of building dwelling-houses on pole-supports. Wherever people in a certain stage of civilization have found themselves settled on solid ground, they have had need of raised food-platforms, partly for keeping their foodstuffs safe from damage on the part of domestic as well as noxious animals, partly for the purpose of drying, smoking or roasting the food (see pp. 38, 47 and 48). If such a people, living on the edge of a lake or a swamp, had wished — for defensive purposes or some other reason — to build their dwelling-huts or other buildings in the water, then, if the bottom of the lake afforded good holding for piles, such buildings would have been constructed in the same way as the food-platforms or pole-supported granaries previously employed on firm ground (compare fig. 28 with fig. 115). Where the people in question has been lacking in sufficient skill to construct large pile-buildings in the water, or if the lake bottom was unsuited to this mode of construction, then huts were built on rafts or quagmire islands, after the manner of the swamp dwellers of Alvastra and Bangweolo.[3]

The furnishing of the Chiriguano huts is exceedingly plain. The fire-place, which forms a very necessary heating centre at night during the cold season, consists of a few stones serving as supports for the cooking pots. There is no hole in the roof for letting out the smoke, which has to find its way out through the doorway or through fissures in the walls. As a rule, the food is generally cooked on a fire outside the hut (fig. 189).

Bedsteads of the type seen in fig. 190 are to be found in nearly every hut. These bed frames are made of laths or reeds, and are covered with skins. Nordenskiöld states as his opinion that the idea of these bedsteads has not been borrowed from the civilization of the whites.[4] In the analytical treatise he has written upon this question he adduces conclusive arguments for his opinion, as it seems to me. In Central Africa, one finds bedsteads that are very similar to the Indian ones,[5] and that certainly have not

[1] Klein, pp. 88—89.
[2] Klein (1).
[3] For lake- and marsh dwelling-places in different parts of the world, see Montelius (1).
[4] Nordenskiöld (18), pp. 8—12.
[5] von Rosen (6), p. 403.

231 /18 cont./ With
262 respect to the eating of meat, the Chiriguano depend on their livestock, which, however, according to Nordenskiöld, since they omit the raising of pigs and chickens, is not so numerous as the livestock of the Chorote and the Churupí. They do not
262 241 eat the flesh of asses, horses, /19/ and dogs (78). Although

78. Nord. 1, p. 190.

we do not have exact data on the amount of meat that their livestock yields, we can suppose that it is not very great, and thus these Indians depend principally on vegetable foods, that is, on the products of their agriculture. We should say that, in comparison with maize, all other foodstuffs have almost no importance, except among the Indians of the Parapití, among whom the sweet potato is the most important food (79).

79. Nord. 1, p. 181.

261 In times of shortage they eat various wild plants, principally
273 the sweet pods of the algarroba (November-December), which, coarsely chopped up with water, they allow to ferment in order to produce a kind of chicha which has inebriating qualities (80).

80. Nord. 1, p. 236. Métraux I, pp. 361 and 362.

262 Since meals consist principally of maize, they are very
● 252 monotonous, although the maize is eaten by them in many different forms, either boiled or parched, or as a flour cooked in steam, as a fried maize-cake, in embers /rescoldo/, or as a soft maize-pudding (81). Meat is eaten roasted or boiled,

81. Nord. 1, pp. 188 and 189. Métraux I, pp. 356-359.

263 together with maize. Cooking salt is used at meals. While
317 previously salt (dyúki) was obtained from mines or extracted
437 from earth from salt licks /barreros/, today it is obtained

8: Schmidt--113 E-5 (1935) 1938 SF10 Chiriguano SF10
Chané SF 8
Izozo
C Ce 415 (126)
/48/ ./

2. Vessels Intended for Frying Maize, from the Collection

I. A. 400 (Chirig.). Ht. 14 cm. Max. dia. 33 cm. (Fig. 53a).
I. A. 592 (Izozó). " 10 cm. " "21.5 cm.

These two vessels are very similar to each other. Both have two small handles on the rim. They differ from one another only in that the division between the flat base and the wall of the Izozó pot is more marked than on the Chiriguano vessel. A vessel very similar to the two described above and from the Chané on the Itiyuru River is shown in a drawing by Erland Nordenskiöld (223). Because Nordenskiöld states that

223. Nord. 2, p. 53 and Fig. 43, N. 23.

this vessel was intended for frying /fritar/ maize, I also consider the two similar vessels in the collection to have been used for that end.

C 415 (126)

3. Vessel for Steaming Maize Meal, from the Collection

I. A. 422 (Chiriguano). Height 12.5 cm. Max. dia. 23 cm. (Fig. 52.)

This vessel has some round holes in the bottom, one of which is in the center and the rest in two concentric circles around the central one. According to Nordenskiöld (224),

C 415 252

224. Nord. 2, Fig. 43, N. 22.

who shows in a drawing a vessel very similar to this one, these plates with holes in the bottom are used for steaming the maize meal with which they prepare a dish that they call in Chiriguano "huintimimimo." To do this, they put the plate with the maize meal on the aperture at the top of a pot in which they boil water (225).

225. See Métraux I, p. 357 and (Plate 13) N. 1 and 2.

/57/

C
Ce
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Grinding the Raw Materials

For grinding raw materials, principally for grinding corn, the Chiriguano and Chané use large wooden mortars with long pestles (255). Such a wooden mortar is shown in Figure 15 and

255. Nord. 1, p. 51. Métraux 1, p. 365, Fig. 30.

C
Ce
412
[171]

another one by Nordenskiöld (256). Stone mills are not used by

256. Nord. 1, Fig. 116.

these Indians, although this implement was used, except for the Chaco tribes, by all the tribes whom the Chiriguano had as neighbors after their migration to the west. According to Métraux, a small stone mill is used only for grinding the seeds of a plant which the Chiriguano use as soap for washing their hair. Such a stone mill is shown in a drawing by Métraux (257).

C
[515]
[388]

257. Métraux I, p. 467, Fig. 122.

C
412
171
174

Because the wooden mortar is common even today among the Kainguá /Caingua/, who also belong to the Guaraní linguistic group, and is also mentioned for the ancient Tupinambá /Tupinamba/ of the eastern coast of Brazil, we can assume that the Chiriguano brought this cultural possession from their native land.

C
262
252
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[171]

The fact that mandioca is not important in the economy of these Indians explains why they do not use the wooden grater, the application of which is diffused among so many other Indian tribes of South America who cultivate this nourishing root.

Making Cord and Thread

C
Ce
283

The thread that the Chiriguano and Chané make out of wool or cotton is spun by means of the spindle, while that made of caraguata is twisted by hand. We have no information on the way this caraguata thread is twisted.

8: Schmidt--199 E-5 (1935) 1938 SF10 Chiriguano SF10
Chane SF8

/76 cont./

C
Ce
252
[415]
[412]

On the Cooking of Meals

Most of the Chiriguano and Chané utensils used /Plates XXXVI-XXXVII appear here/ /77/ for cooking meals have already been mentioned in the preceding chapters, such as pots for cooking food and for fermenting chicha, dishes with holes in the center of the bottom for steaming maize meal, vessels for frying /fritar/ maize, wooden mortars with their pestles, and sieves. For frying /fritar/ meat or fish, the Chiriguano and Chané do not use the quadrangular or triangular stands which are so common among other South American Indians, but instead simple wooden spits (282). Also, as we have already

C
Ce
[171]
Ce
[412]

282. Nord. 2, p. 55. Métraux I, p. 352 and Figure 22.

said, the grater for grating mandioca roots is not found among these Indians.

We have yet to mention two other utensils used by the Chiriguano and Chané for fixing their meals, the large wooden dish and the spatula for stirring foods or drinks when they are boiling or fermenting.

Ce
[415]
[412]

C
415
126

Large Wooden Dishes (Platters) in the Collection

I. A. 574. (Chirig) Lgth 0.83 m. Width 0.39 m. (Fig. 19.)
I. A. 575. " " 1 m. " 0.325 m.

Unfortunately I did not obtain data regarding the special use of these large wooden dishes which I acquired from the Chiriguano in Machareti. As Fig. 19 shows, these large wooden dishes are provided with the same handles as the smaller wooden dishes which serve as vessels for eating.